

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference DX01051	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/US 00/ 31167	International filing date (day/month/year) 15/11/2000	(Earliest) Priority Date (day/month/year) 15/11/1999
Applicant SCHERING CORPORATON		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 6 sheets.
☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☒ furnished subsequently to this Authority in computer readable form.

☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

GENES SPECIFICALLY EXPRESSED IN HUMAN DENDRITIC CELLS

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 19, 20
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1 - 18 (all partially)

relating to DC-STAMP (SEQ ID NOs:1 and 2), nucleic acid and protein sequence, vectors and cells comprising the nucleic acid sequence, antibodies against the protein, kits comprising the nucleic acid or the protein sequence as well as methods employing said sequences.

2. Claims: 1 - 18 (all partially)

relating to DSP-1 (SEQ ID NOs:4-7), nucleic acid and protein sequences, vectors and cells comprising the nucleic acid sequences, antibodies against the proteins, kits comprising the nucleic acid or the protein sequences as well as methods employing said sequences.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

Continuation of Box I.2

Claims Nos.: 19,20

Present claims 19 and 20 relate to a method employing a chemical defined by reference to a desirable characteristic or property, namely to act as an agonist or antagonist of the transmembrane protein DC-STAMP or of the immunoglobulin binding protein DSP-1. Any chemical (e.g. sodium chloride, lead, ...) may act as an agonist or antagonist of said protein. The application does not provide support within the meaning of Article 6 PCT nor disclosure within the meaning of Article 5 PCT for such chemicals. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define a product within a process by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search impossible.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

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International Application No

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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07K14/705 C07K16/42

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

BIOSIS, EPO-Internal, EMBL, WPI Data, PAJ, CHEM ABS Data, MEDLINE, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE EMBL 'Online! AC AI268407, 19 November 1998 (1998-11-19) STRAUSBERG ET AL.: "Homo sapiens cDNA clone" XP002164170 abstract	1-18
X	DATABASE EMBL 'Online! AC B90797, 19 March 1998 (1998-03-19) ADAMS ET AL.: "Homo sapiens genomic clone 2169P9" XP002164171 abstract	1-18

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

28 May 2001

Date of mailing of the international search report

13.06.01

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International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 36438 A (HART DEREK NIGEL JOHN ;CORP OF THE TRUSTEES OF THE OR (AU)) 22 July 1999 (1999-07-22) claims; examples SEQ ID NOs:2,5 ----	1-18
X	GREEN B J ET AL: "THE CMRF-35 MAB RECOGNIZES A SECOND LEUKOCYTE MEMBRANE MOLECULE WITH A DOMAIN SIMILAR TO THE POLY IG RECEPTOR" INTERNATIONAL IMMUNOLOGY, OXFORD UNIVERSITY PRESS, GB, vol. 10, no. 7, 13 March 1998 (1998-03-13), pages 891-899, XP000972371 ISSN: 0953-8178 ----	1-18
X	DATABASE EMBL 'Online! AC AJ224864, 6 September 1999 (1999-09-06) O'CONNOR, C.D.: "Molecular cloning of a novel inhibitory receptor" XP002168329 abstract ----	1-18
A	WO 98 23747 A (SCHERING CORP) 4 June 1998 (1998-06-04) the whole document ----	1-18
A	EP 0 873 998 A (TAKEDA CHEMICAL INDUSTRIES LTD) 28 October 1998 (1998-10-28) the whole document ----	1-18
T	HARTGERS, FRANCA C. ET AL: "DC - STAMP, a novel multimembrane-spanning molecule preferentially expressed by dendritic cells." EUROPEAN JOURNAL OF IMMUNOLOGY, (DECEMBER, 2000) VOL. 30, NO. 12, PP. 3585-3590. PRINT., XP002164169 the whole document -----	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9936438	A	22-07-1999	AU	2078699 A	02-08-1999
			EP	1047714 A	02-11-2000
WO 9823747	A	04-06-1998	AU	5356498 A	22-06-1998
EP 0873998	A	28-10-1998	JP	11152300 A	08-06-1999